

## Author Index of Volume A 50

- Ahmed, H., 31  
Atsuchi, K., 111
- Bakush, M.M., 147  
Bausells, J., 99  
Beebe, D.J., 55  
Benitez, A., 99  
Berlicki, T.M., 183  
Burrer, C., 7
- Chitaree, R., 45  
Cho, Y.-H., 121  
Cleaver, J.R.A., 31  
Clegg, W.W., 147  
Cunningham, M.J., 147
- Denton, D.D., 55
- Elgamel, H.E., 17  
Esteve, J., 7, 99
- Flynn, D., 187  
Futami, A., 69
- Gerlach, T., 135  
Grattan, K.T.V., 45
- Han, S.W., 151  
Harb, S.M., 23  
Hari, N.S., 39  
Haronian, D., 223  
Hasegawa, T., 111
- Higuchi, T., 69, 75  
Hoyle, P.C., 31  
Hsieh, A.S., 55
- Jenkins, D.F.L., 147  
Jiao, J., 117  
Jin, W., 1
- Kim, K.H., 121  
Kim, S.Y., 151  
Kim, Y., 141  
Kloos, G., 159  
Kluge, S., 81  
Ko, J.S., 121  
Konaka, Y., 93  
Kraiczek, K., 87  
Kurosawa, M., 69, 75  
Kutty, T.R.N., 39  
Kwak, B.M., 121
- Lee, J.S., 209  
Lee, K., 121  
Lee, S.-S., 127  
Lin, L.-Y., 127  
Lu, D., 117
- MacCraith, B.D., 45  
MacDonald, N.C., 199  
Matsushita, H., 191  
Mihailovich, R.E., 199  
Mochida, Y., 111  
Morita, T., 75
- Moriya, K., 111  
Murawski, E., 183  
Murphy, V., 45  
Muszyński, M., 183
- Nagy, A., 177  
Nakamoto, T., 191  
Negoro, Y., 93  
Neikirk, D.P., 141
- Oguchi, T., 93  
Ohwada, K., 93, 111  
Okazaki, N., 191  
Osadnik, S.J., 183
- Padmini, P., 39  
Palmer, A.W., 45  
Park, K., 121  
Pister, K.S.J., 127  
Prociów, E.L., 183
- Quandt, E., 105
- Radwin, R.G., 55  
Richter, A., 81  
Richter, M., 81  
Rodriguez, F., 177  
Rodriguez, P., 177
- Schmitt, H.J., 13  
Scholl, B., 13  
Seemann, K., 105
- Shibaiki, N., 209  
Sugimoto, M., 111
- Tanaka, K., 111  
Trujillo, H., 177
- Ulrich, J., 81
- Venuvinod, P.K., 1  
Vidic, M., 23  
Vuilleumier, R., 87
- Wang, W., 117  
Wang, Z.P., 169  
Watanabe, T., 69  
Wei, Y., 13  
Weir, K., 45  
Wu, M.C., 127  
Wurmus, H., 135
- Xiong, B., 117
- Yagawa, G., 209  
Yang, E.H., 151  
Yang, S.S., 151  
Yoshimura, S., 209
- Zengerle, R., 81  
Zhang, L.B., 169  
Zhang, S.Q., 169  
Zhu, R., 13

## Subject Index of Volume A 50

### Accelerometers

- uniform groove-depths in (110) Si anisotropic etching by ultrasonic waves and application to accelerometer fabrication, 93
- a skew-symmetric cantilever accelerometer for automotive airbag applications, 121

### Active sensing

- improvement of optimization algorithm in active gas/odor sensing system, 191

### Actuation

- active vibration control and actuation of a small cantilever for applications in scanning probe instruments, 147

### Actuators

- a bidirectional silicon micropump, 81
- fabrication and simulation of magnetostrictive thin-film actuators, 105

### Air damping

- a skew-symmetric cantilever accelerometer for automotive airbag applications, 121

### Anisotropic etching

- uniform groove-depths in (110) Si anisotropic etching by ultrasonic waves and application to accelerometer fabrication, 93

### Automotive airbags

- a skew-symmetric cantilever accelerometer for automotive airbag applications, 121

### Barium titanate

- cryogenic sensors from semiconducting barium titanate ceramics with strong negative temperature coefficient of resistance, 39

### BESOI substrates

- bulk silicon microelectromechanical devices fabricated from commercial bonded and etched-back silicon-on-insulator substrates, 99

### BESOI wafers

- high-precision BESOI-based resonant accelerometer, 7

### Bipolar magnetotransistors

- merged lateral bipolar magnetotransistors, 177

### Bonding mechanism

- low-temperature silicon direct bonding and interface behaviours, 117

### Bulk micromachining

- a skew-symmetric cantilever accelerometer for automotive airbag applications, 121

### Cantilevers

- a skew-symmetric cantilever accelerometer for automotive airbag applications, 121
- active vibration control and actuation of a small cantilever for applications in scanning probe instruments, 147

### Closed-form expressions

- closed-form expressions for the relationships between stress, diaphragm deflection, and resistance change with pressure in silicon piezoresistive pressure sensors, 17

### Computational geometry

- a CAE system for micromachines: its application to electrostatic micro wobble actuator, 209

### Computer-aided engineering

- a CAE system for micromachines: its application to electrostatic micro wobble actuator, 209

### Corrugated diaphragms

- fabrication and dynamic testing of electrostatic actuators with p<sup>+</sup> silicon diaphragms, 151

### Crash detection

- a skew-symmetric cantilever accelerometer for automotive airbag applications, 121

### Cryogenic sensors

- cryogenic sensors from semiconducting barium titanate ceramics with strong negative temperature coefficient of resistance, 39

### Demodulation techniques

- demodulation of a magnetoresistive sensor signal to achieve a low-cost, stable and high-resolution vector magnetometer, 187

### Design windows

- a CAE system for micromachines: its application to electrostatic micro wobble actuator, 209

### p<sup>+</sup> Diaphragms

- fabrication and dynamic testing of electrostatic actuators with p<sup>+</sup> silicon diaphragms, 151

### Dissipation measurements

- dissipation measurements of vacuum-operated single-crystal silicon microresonators, 199

### Dynamic passive valves

- working principle and performance of the dynamic micropump, 135

### Dynamic testing

- fabrication and dynamic testing of electrostatic actuators with p<sup>+</sup> silicon diaphragms, 151

### Dynamometers

- interaction elimination for multicomponent strain-gauge dynamometers, 1

### Electron-beam-induced oxidation

- fabrication of free-standing microtransducers in GaAs with an electron-beam-induced oxide mask and Cl<sub>2</sub> etching, 31

### Electrostatic actuators

- fabrication and dynamic testing of electrostatic actuators with p<sup>+</sup> silicon diaphragms, 151

### Electrostatic drive

- a bidirectional silicon micropump, 81

### Fabry-Pérot cavities

- design for manufacture of micromachined Fabry-Pérot cavity-based sensors, 141

### Finite-element analysis

- a CAE system for micromachines: its application to electrostatic micro wobble actuator, 209

### Force sensors

- a silicon force sensor for robotics and medicine, 55

### Free-space integrated optics

- micromachined free-space integrated micro-optics, 127

- Fuzzy knowledge processing
  - a CAE system for micromachines: its application to electrostatic micro wobble actuator, 209
- Gallium arsenide
  - fabrication of free-standing microtransducers in GaAs with an electron-beam-induced oxide mask and  $\text{Cl}_2$  etching, 31
- Gas sensing
  - improvement of optimization algorithm in active gas/odor sensing system, 191
- Geometry optimization
  - maximizing microelectromechanical sensor and actuator sensitivity by optimizing geometry, 223
- Gyroscopes
  - a micromachined vibrating gyroscope, 111
- Hydrothermal method
  - an ultrasonic micromotor using a bending cylindrical transducer based on PZT thin film, 75
- Interaction elimination
  - interaction elimination for multicomponent strain-gauge dynamometers, 1
- Interface behaviours
  - low-temperature silicon direct bonding and interface behaviours, 117
- Langmuir monolayers
  - a new optical-fiber sensor for measuring surface pressure of Langmuir monolayers, 13
- Lead zirconate titanate
  - an ultrasonic micromotor using a bending cylindrical transducer based on PZT thin film, 75
- Low temperature
  - low-temperature silicon direct bonding and interface behaviours, 117
- Magnetic sensors
  - merged lateral bipolar magnetotransistors, 177
- Magnetoresistive sensors
  - demodulation of a magnetoresistive sensor signal to achieve a low-cost, stable and high-resolution vector magnetometer, 187
- Magnetostrictive films
  - fabrication and simulation of magnetostrictive thin-film actuators, 105
- Materials science
  - a transfer-function approach to the interpretation of relaxation spectra of second-order cross-effects in materials science, 159
- Medicine
  - a silicon force sensor for robotics and medicine, 55
- Microactuators
  - a bidirectional silicon micropump, 81
- Microelectromechanical devices
  - bulk silicon microelectromechanical devices fabricated from commercial bonded and etched-back silicon-on-insulator substrates, 99
- Microelectromechanical systems
  - maximizing microelectromechanical sensor and actuator sensitivity by optimizing geometry, 223
- Micromachines
  - a CAE system for micromachines: its application to electrostatic micro wobble actuator, 209
- Micromachining
  - a bidirectional silicon micropump, 81
  - a micromachined vibrating gyroscope, 111
  - design for manufacture of micromachined Fabry-Pérot cavity-based sensors, 141
- Micromotors
  - an ultrasonic micromotor using a bending cylindrical transducer based on PZT thin film, 75
- Micro-optical elements
  - micromachined free-space integrated micro-optics, 127
- Micropumps
  - a bidirectional silicon micropump, 81
  - working principle and performance of the dynamic micropump, 135
- Microresonators
  - dissipation measurements of vacuum-operated single-crystal silicon microresonators, 199
- Microtransducers
  - fabrication of free-standing microtransducers in GaAs with an electron-beam-induced oxide mask and  $\text{Cl}_2$  etching, 31
- Micro wobble actuators
  - a CAE system for micromachines: its application to electrostatic micro wobble actuator, 209
- Neural networks
  - a CAE system for micromachines: its application to electrostatic micro wobble actuator, 209
- Odor sensing
  - improvement of optimization algorithm in active gas/odor sensing system, 191
- Optical-fibre ellipsometers
  - an optical-fibre ellipsometer for applications in thin-film sensor systems, 45
- Optical-fibre sensors
  - a new optical-fiber sensor for measuring surface pressure of Langmuir monolayers, 13
  - recent advances in optical current-sensing techniques, 169
- Optimization algorithm
  - improvement of optimization algorithm in active gas/odor sensing system, 191
- Piezoelectricity
  - working principle and performance of the dynamic micropump, 135
- Piezoresistive sensors
  - closed-form expressions for the relationships between stress, diaphragm deflection, and resistance change with pressure in silicon piezoresistive pressure sensors, 17
- Power distribution
  - recent advances in optical current-sensing techniques, 169
- Precision spectrophotometers
  - variable-entrance-slit system for precision spectrophotometers, 87
- Pressure sensors
  - closed-form expressions for the relationships between stress, diaphragm deflection, and resistance change with pressure in silicon piezoresistive pressure sensors, 17
- Pumps
  - a bidirectional silicon micropump, 81
- Q-factors
  - a micromachined vibrating gyroscope, 111
- Relaxation spectra
  - a transfer-function approach to the interpretation of relaxation spectra of second-order cross-effects in materials science, 159
- Residual stress
  - fabrication and dynamic testing of electrostatic actuators with  $p^+$  silicon diaphragms, 151
- Resonant accelerometers
  - high-precision BESOI-based resonant accelerometer, 7
- Resonator-based sensors
  - resonator-based touch-sensitive probe, 23
- Robotics
  - a silicon force sensor for robotics and medicine, 55
- Scanning probe instruments
  - active vibration control and actuation of a small cantilever for applications in scanning probe instruments, 147



- Second-order cross-effects
  - a transfer-function approach to the interpretation of relaxation spectra of second-order cross-effects in materials science, 159
- Self-diagnosis
  - a skew-symmetric cantilever accelerometer for automotive airbag applications, 121
- Semiconducting ceramics
  - cryogenic sensors from semiconducting barium titanate ceramics with strong negative temperature coefficient of resistance, 39
- Sensors
  - recent advances in optical current-sensing techniques, 169
- Silicon
  - closed-form expressions for the relationships between stress, diaphragm deflection, and resistance change with pressure in silicon piezoresistive pressure sensors, 17
  - a silicon force sensor for robotics and medicine, 55
  - uniform groove-depths in (110) Si anisotropic etching by ultrasonic waves and application to accelerometer fabrication, 93
- Single-crystal silicon
  - dissipation measurements of vacuum-operated single-crystal silicon microresonators, 199
- Strain gauges
  - interaction elimination for multicomponent strain-gauge dynamometers, 1
- Surface acoustic waves
  - surface acoustic wave atomizer, 69
- Surface pressure measurements
  - a new optical-fiber sensor for measuring surface pressure of Langmuir monolayers, 13
- Tactile sensors
  - a silicon force sensor for robotics and medicine, 55
- Thermal sensors
  - thin-film thermocouples of Ge doped with Au and B, 183
- Thin films
  - fabrication and simulation of magnetostrictive thin-film actuators, 105
- Thin-film sensors
  - an optical-fibre ellipsometer for applications in thin-film sensor systems, 45
  - thin-film thermocouples of Ge doped with Au and B, 183
- Thin Ge films
  - thin-film thermocouples of Ge doped with Au and B, 183
- Touch-sensitive probes
  - resonator-based touch-sensitive probe, 23
- Transfer functions
  - a transfer-function approach to the interpretation of relaxation spectra of second-order cross-effects in materials science, 159
- Ultrasonic atomizers
  - surface acoustic wave atomizer, 69
- Ultrasonic motors
  - an ultrasonic micromotor using a bending cylindrical transducer based on PZT thin film, 75
- Ultrasonic waves
  - uniform groove-depths in (110) Si anisotropic etching by ultrasonic waves and application to accelerometer fabrication, 93
- Variable slit systems
  - variable-entrance-slit system for precision spectrophotometers, 87
- Vector magnetometer
  - demodulation of a magnetoresistive sensor signal to achieve a low-cost, stable and high-resolution vector magnetometer, 187
- Vibration control
  - active vibration control and actuation of a small cantilever for applications in scanning probe instruments, 147

